IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A lithographic apparatus, comprising:

an illumination system configured to provide a beam of radiation;

a first support ~~structure~~ configured to support a patterning device that imparts said beam of radiation with a desired pattern in its cross-section;

a second support ~~structure~~ that includes a substrate holder for holding a substrate;

a projection system configured to project said patterned beam of radiation onto a target portion on a surface of said substrate;

a servo unit configured to position said substrate holder;

a sensor unit configured to determine a distance of at least one location point on the surface of said substrate relative to a reference plane;

a memory unit configured to store surface information of said substrate based on respective distances of corresponding ~~said at least one~~ location [[point]] points on said substrate surface; and

a calculating unit configured to determine a feed-forward set-point signal based on said stored surface information,

wherein said feed-forward set-point signal is forwardly fed to said servo unit in order to position said substrate holder.

2. (Original) The lithographic apparatus of Claim 1, wherein said sensor unit includes a level sensor for measuring said surface information of said substrate.

3. (Currently amended) The lithographic apparatus of Claim [[2]] 1, wherein said stored surface information of said substrate is formatted as an array of measured distances as a function of two dimensional coordinates, wherein each of said two-dimensional co-ordinates is defined by an orthogonal projection of said corresponding location point on the reference plane.

4. (Currently amended) The lithographic apparatus of Claim [[2]] 1, wherein said substrate holder is provided with a substantially flat supporting surface for supporting said

substrate and wherein the reference plane is substantially parallel oriented to the supporting surface.

5. (Currently amended) The lithographic apparatus of Claim [[4]] 1, wherein the reference plane has a fixed position with respect to said projection system such that the distances of said substrate surface are determined with respect to the projection system.

6. (Currently amended) The lithographic apparatus of Claim [[2]] 1, wherein said calculating unit is configured to fit a mathematical smooth function to said substrate surface based on said surface information and to calculate said feed-forward set-point signal based on said fitted function.

7. (Original) The lithographic apparatus of Claim 6, wherein said mathematical function comprises at least one polynomial function that is fit locally to said substrate surface.

8. (Original) The lithographic apparatus of Claim 6, wherein said calculating unit is configured to calculate derivatives of said mathematical smooth function for calculating and incorporating at least one of a speed signal and force signal in said feed-forward set-point signal.

9. (Currently amended) The lithographic apparatus of Claim [[2]] 1, wherein said second support ~~structure~~ comprises a second substrate holder for holding a second substrate, and wherein surface information of said second substrate is determined while projecting said patterned beam of radiation onto said target portion of said substrate surface placed on said substrate holder arranged to be positioned by said servo unit based on previously determined surface information of said substrate.

10. (Currently amended) A device manufacturing method, comprising:

providing a substrate on a supporting surface of a substrate holder;

~~providing a beam of radiation using an illumination system;~~

~~imparting said beam of radiation with a desired pattern in its cross-section, said desired pattern provided by a patterning device;~~

projecting ~~said pattern~~ a patterned beam of radiation onto a surface of said substrate via a projection system;

determining a distance of at least one location point on said substrate surface relative to a reference plane, said reference plane being in a fixed position relative to said projection system;

storing surface information of said substrate based on respective distances of corresponding ~~said at least one~~ location [[point]] points on said substrate surface;

calculating a set-point signal based on said stored surface information;

forwarding said set-point signal to a servo unit configured to position said substrate holder; and

positioning said substrate holder relative to said projection system based on said forwarded set-point signal.

11. (Currently amended) A lithographic substrate focus control system, comprising:

a substrate support ~~structure~~ having a substrate holder configured to hold a substrate;

a servo unit configured to position said substrate holder;

a sensor unit configured to determine a distance of at least one location point on the surface of said substrate relative to a reference plane;

a memory unit configured to store surface information of said substrate based on respective distances of corresponding ~~said at least one~~ location [[point]] points on said substrate surface; and

a calculating unit configured to determine a feed-forward set-point signal based on said stored surface information, wherein said feed-forward set-point signal is forwardly fed to said servo unit in order to position said substrate holder.

12. (Original) The lithographic substrate focus control system of Claim 11, wherein said sensor unit includes a level sensor for measuring said surface information of said substrate.

13. (Currently amended) The lithographic substrate focus control system of Claim [[12]] 11, wherein said stored surface information of said substrate is formatted as an array of measured distances as a function of two dimensional coordinates, wherein each of said two-

dimensional co-ordinates is defined by an orthogonal projection of said corresponding location point on the reference plane.

14. (Currently amended) The lithographic substrate focus control system of Claim [[12]] 11, wherein said substrate holder is provided with a substantially flat supporting surface for supporting said substrate and wherein the reference plane is substantially parallel oriented to the supporting surface.

15. (Currently amended) The lithographic substrate focus control system of Claim [[14]] 11, wherein the reference plane has a fixed position with respect to a projection system that projects a patterned beam of radiation onto said substrate, and wherein the distances of said substrate surface are determined with respect to said projection system.

16. (Currently amended) The lithographic substrate focus control system of Claim [[12]] 11, wherein said calculating unit is configured to fit a mathematical smooth function to said substrate surface based on said surface information and to calculate said feed-forward set-point signal based on said fitted function.

17. (Original) The lithographic substrate focus control system of Claim 16, wherein said mathematical function comprises at least one polynomial function that is fit locally to said substrate surface.

18. (Original) The lithographic substrate focus control system of Claim 16, wherein said calculating unit is configured to calculate derivatives of said mathematical smooth function for calculating and incorporating at least one of a speed signal and force signal in said feed-forward set-point signal.

19. (Currently amended) The lithographic substrate focus control system of Claim [[12]] 11, wherein said substrate support ~~structure~~ comprises a second substrate holder and wherein surface information of said second substrate is determined while projecting [[said]] a patterned beam of radiation onto [[said]] a target portion of said substrate surface placed on said substrate holder arranged to be positioned by said servo unit based on previously determined surface information of said substrate.